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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,824	02/06/2002	Charles E. Romano JR.	83245LMB	8825

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EXAMINER

SCHWARTZ, PAMELA R

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/068,824

Applicant(s)

ROMANO, CHARLES E

Examiner

Pamela R. Schwartz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 23-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22, 37 and 38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-38 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

1. Applicant is advised that should claim 2 be found allowable, claim 37 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 38 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. With respect to claim 38, the examiner was unable to find support in the original claims or specification for the limitation that the vinyl latex polymer be anionic. Applicants have pointed to several claims and places within the specification, including the examples. There is one example that includes a vinyl latex by tradename, but fails to state or suggest a preference for anionic vinyl latex materials. Consequently, this claim limitation is new matter.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 9, 11, 12, 15, 21, 22 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawano et al. (5,478,631).

Kawano et al. disclose an ink jet recording element having a support and top and bottom hydrophilic absorbing layers on its surface. Both top and bottom layer are formed from an aqueous composition including amphoteric latex, water-soluble polymer and pigment (see col. 7, lines 3-21). As water-soluble polymers, the reference discloses one or more of a group including acetoacetylated polyvinyl alcohol, polyvinyl pyrrolidone, and gelatin. The layers may also contain vinyl latexes and polyurethane resin (see col. 6, lines 1-48). The reference discloses layer weight per area as opposed to layer thicknesses (see col. 9, lines 18-24). The bottom layer may be further divided to form an intermediate layer and a lowest layer (see col. 7, lines 52-55). The ink receptive layers may contain a dye-fixing agent, i.e. mordant (see col. 6, lines 48-61). It is noted that the term "laminate adhesion promoting absorbing hydrophilic overcoat polymer latex" has no specific meaning in the art and is largely a series of functions assigned to the layer. Since the top layer of the reference would have each of these properties to some degree, the claimed layer reads on the top layer of the reference.

5. Claims 1-3, 7-15, 19-22 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawano et al. (5,478,631) for reasons of record and for reasons given below. Since the reference states that the group of binders including polyurethane may be used "as far as the effects of the present invention are not lost," it would have been obvious to one of ordinary skill in the art to use less of these binders than of the water-soluble high polymer, a required component in each layer (see col. 6, lines 33-36). Consequently, the ratio of polyurethane to polyvinyl alcohol instantly claimed would have been obvious to one of ordinary skill in the art. While the reference does not state that the polyurethane is included as a dispersion, inclusion of the polyurethane as a disperse element in an aqueous coating would have been obvious to one of ordinary skill in this art because the polyurethane is not disclosed as a water-soluble polymer and would have to be dispersed for inclusion in the aqueous coating composition. It would have been obvious to one of ordinary skill in the art to determine thicknesses of the layers based upon the coating weights disclosed by the reference and the performance of the medium in areas of surface strength, bleeding and thinning, color reproduction, and water resistance, i.e. the properties identified by Kawano et al.
6. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawano et al. (5,478,631) for reasons of record and further in view of applicants' admission of pages 8-9 of the specification for reasons given below. Applicants admit that polyurethane that may be used in their invention may be Witcobond® W-232, a commercially available polyurethane dispersion. Based upon the disclosure of the reference that a polyurethane may be included in the disclosed medium, it would have

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been obvious to one of ordinary skill in the art to include a commercially available polyurethane that is capable of forming part of an aqueous coating composition.

7. Claims 1, 2, 4-6 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawano et al. as applied to claims 1-3, 7-15 and 19-22 above, and further in view of Tomizawa et al. (6,224,971) for reasons of record and for reasons given below.

8. Claims 1 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawano et al. as applied to claims 1-3, 7-15, 19-22 above, and further in view of Ueda et al. (EP 791,475) for reasons of record and for reasons given below.

9. Claims 1, 2, 7, 8, 21, 22 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Niu et al. (6,599,593). The reference discloses an ink-receiving medium that may be used as an ink jet recording medium (see col. 3, lines 54-58) comprising a substrate, a porous medial layer, and a non-porous top layer on the surface thereof (see the abstract). The top layer may be a combination of an acetoacetylated polyvinyl alcohol, a polyurethane resin dispersion and an epichlorohydrin containing polyamide (see col. 9, lines 6-31). The medial layer may be pigment and polyvinyl alcohol (see col. 16, line 56 to col. 18, lines 24). The layer may also contain a latex resin (see col. 18, lines 25-44). An additional layer may be present between the top layer and the medial layer (see col. 20, lines 30-35). The epichlorohydrin containing polyamide acts as a mordant (see col. 22, line 57 to col. 23, line 28).

10. Claims 1, 2, 9-14, 19-22, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niu et al. (6,599,593). See paragraph 9 above. The reference

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discloses coating weights rather than coating thicknesses, however, from the disclosure of coating weights, it would have been obvious to one of ordinary skill in the art to determine coating thicknesses for the layers (see col. 19, lines 28-31 and col. 24, lines 35-38). With respect to an additional coat layer between the medial and top layers, since such layers are disclosed by the reference, it would have been obvious to one of ordinary skill in the art to include an additional layer of the same compositional make up in order to increase the coating thickness while avoiding coating problems, such as cracking, which are associated with coating of a single layer of greater thickness.

11. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Niu et al. (6,599,593) for reasons of record and further in view of applicants' admission of pages 8-9 of the specification for reasons given below. Applicants admit that polyurethane that may be used in their invention may be Witcobond® W-232, a commercially available polyurethane dispersion. Based upon the disclosure of the reference that a polyurethane dispersion may be included in the disclosed medium, it would have been obvious to one of ordinary skill in the art to include a commercially available polyurethane that is capable of forming part of an aqueous coating composition.

12. Claims 1, 2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niu et al. (6,599,593) as applied to claims 1, 2, 7-14, 19-22, 37 and 38 above, and further in view of Tomizawa et al. (6,224,971). The secondary reference discloses an ink jet recording sheet including acetoacetylated polyvinyl alcohol. The primary reference does not disclose the properties of the disclosed acetoacetylated polyvinyl alcohol used therein, therefore, it is appropriate to look elsewhere in the same art area

for a particular acetoacetylated polyvinyl alcohol to use in the invention of the primary reference. Tomizawa et al. disclose an acetoacetylated polyvinyl alcohol with properties as recited by the instant claims (see col. 2, lines 46-67) although the reference is silent with respect to molecular weight. Both applicant and the secondary reference use a commercially available product from the Gohsefimer Z200 series of Nippon Gohsei Kagaku Kogyo Co. The examiner was unable to determine the molecular weights of each of these polymers. However, they are in the same commercial series of the same company, and have the same degree of saponification and substitution. Therefore, it would have been obvious to one of ordinary skill in the art to determine the particular polyvinyl alcohol from the commercially available series of polymers identified by the prior art as useful in ink jet recording media applications in order to achieve the goals set forth by the primary reference.

13. Claims 1 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niu et al. (6,599,593) as applied to claims 1, 2, 7-14, 19-22, 37 and 38 above, and further in view of Ueda et al. (EP 791,475). As with the polyvinyl alcohol, the primary reference is also silent with respect to particular gelatin that may be used. Therefore, Ueda et al. is cited for teaching of gelatin that is used in the ink jet recording art (see page 3). The secondary reference teaches that gelatins may be pigskin, cow skin, or cow bone, and may be lime-processed, acid processed, or gelatin derivatives. Based upon this teaching it would have been obvious to one of ordinary skill in the art to use a gelatin previously taught for use in ink jet recording media as the gelatin of the primary reference.



14. Applicant's arguments filed July 26, 2004 have been fully considered but they are not persuasive. Applicants argue that Kawano et al. fail to teach a "lamine adhesion promoting absorbing hydrophilic overcoat." The examiner disagrees. While Kawano et al. does not refer to any layer in this manner, the term "lamine adhesion promoting absorbing hydrophilic" is merely a list of properties that are attributed to the overcoat layer in the instant claims. The top layer of Kawano et al. will possess these properties to some degree because the layers adhere in a lamine, are hydrophilic, are made of polymers and provide an overcoat. Therefore, the applicants' claims read on the reference.

Kawano et al. considered numerous properties in determining compositions of their layers, one of which was successful adhesion to adjacent layers (see col. 8, lines 9-13 and 44-51). The recitation at col. 8 identifies adhesion of the layers as a property that Kawano et al. had identified and were aware of. Therefore, they would have chosen the composition of each layer so that adhesion to adjacent layers was successful. It is unnecessary to modify the reference to produce lamine adhesion.

Contrary to applicants' arguments, Kawano et al. disclose acetoacetylated polyvinyl alcohol as a material for use in these layers as a water soluble high polymer. This is a derivatized polyvinyl alcohol as instantly claimed (see col. 6, lines 1-16 of the reference).

Applicants argue that Kawano et al. 1) fails to disclose differences with lamine adhesion which relate to material selection, 2) fails to disclose the improvement in lamine adhesion achievable by selecting a derivatized poly(vinyl alcohol) having at

least one hydroxyl group replaced by ether or ester groupings, 3) fails to teach disclose or suggest a laminate adhesion promoting absorbing hydrophilic overcoat polymer layer containing a derivatized poly(vinyl alcohol) having at least one hydroxyl group replaced by ether or ester groupings, 4) fails to provide any motivation to modify the reference to produce the laminate adhesion promoting absorbing hydrophilic overcoat polymer layers containing derivatized poly(vinyl alcohol) which provides better laminate adhesion, 5) fails to provide any likelihood of obtaining improved laminate adhesion by using a derivatized poly(vinyl alcohol), and 6) fails to mention laminate adhesion or use of specific materials to improve laminate adhesion.

The examiner agrees with 1, 2 and 4-6 but finds none of these to be necessary for the claims to read on the applied prior art. In order to clarify this for applicants, the examiner has added rejections under 35 USC 102 to demonstrate that at least for some of the claims, no modification is necessary for the claims to read on the prior art. Put another way, laminate adhesion is a property, not a structure or a composition, and it need not be recognized by the prior art for rejection to be proper.

Because the prior art discloses all of the structural and compositional limitations set forth in the claims for a laminate adhesion promoting absorbing hydrophilic overcoat polymer layer, the examiner disagrees with applicants' #3. As stated earlier, there is very little required or inherent structure in the title given to applicants' top layer. What structure this language does require is fully met by the prior art.

Applicants also argue that Kawano et al. require the presence of an amphoteric latex and that without the amphoteric latex, inferior results are obtained. This is not

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persuasive because applicants' claims do not preclude the presence of an amphoteric latex.

Applicants argue further that their examples demonstrate unexpected results when derivatized polyvinyl alcohol is used in lieu of non-derivatized polyvinyl alcohol or a mixture of non-derivatized polyvinyl alcohol and polyethylene oxide copolymer. These showings are not persuasive because the examples do not vary only the polyvinyl alcohol. In each of examples 1-4, the derivatized polyvinyl alcohol is used along with another material (surfactants in example 1, polyurethane dispersion in examples 2 and 3, and vinyl copolymer in example 4). These materials were not present in the comparative examples, so there is no comparison in which the polyvinyl alcohol alone was varied. There is no showing demonstrating that unexpected results are obtained merely by changing from non-derivatized to derivatized polyvinyl alcohol.

In addition, the comparisons are not with the closest prior art, i.e. that applied by the examiner. Applicants also point to their Comparative Example 6 which has "poor laminate adhesion." The material cited by applicants is not specifically disclosed by the reference. Instead, applicants appear to pick and choose from different teachings of the reference to determine that it discloses a specific material in accordance with their Comparative Example 6. Even if this were a disclosure of Kawano et al., it would not overcome the rejection because no specific amount of laminate adhesion promoting is required by applicants' claims.

Applicants state that "improved laminate adhesion, is not a property any layer has if it is successfully laminated to adjacent layers." In performing this examination,

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the examiner has been defining the phrase "lamine adhesion" as referring to the adhesion of a coating as part of a laminate. To promote this adhesion would be to "contribute to the growth of" adhesion between the layers (see the definition from The American Heritage Dictionary, Second College Edition, Houghton Mifflin Company, 1982). The examiner has relied upon the plain meaning of this language in examining this application, no special definition is set forth by applicants' specification and the examiner is unaware of any specialized meaning in the art. Consequently, applicants are requested to explain this statement further. It seems that applicants may be attributing a special meaning or special limitations to this terminology of which the examiner is unaware. If this is the case, applicants are requested to present their definition and to demonstrate support for their definition in the specification or the prior art.

The Declaration of Romano has been carefully considered but is not sufficient. Because the language of the specification is clearly contrary to Mr. Romano's statements, and applicants wish to contradict the plain meaning of the language of the specification, they need to submit evidence that there was an error in drafting the language of the specification. For example, applicants could submit lab notes for the experiments of the examples, supporting Mr. Romano's statements that the only change between the example and the comparative example was the polyvinyl alcohol used therein.

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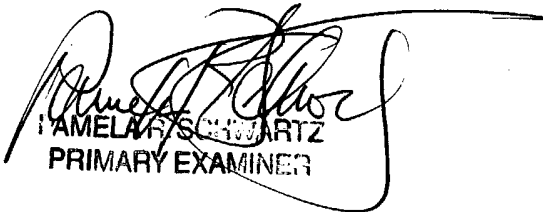
Applicants' arguments concerning the secondary art appear to be cumulative and directed to the alleged failings of Kawano et al. These arguments are unpersuasive for the reasons set forth above.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela Schwartz whose telephone number is (571) 272-1528.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRSchwartz  
September 24, 2004

  
PAMELA R. SCHWARTZ  
PRIMARY EXAMINER